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Professional address:

Kimeragen, Inc.
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Newtown, NJ 18940
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Personal address:

37 Winthrop Rd.
Lawrenceville, NJ 08648
(609) 844-9676

Professional Experience:

1/97-Present ValiGen, Inc., Newtown, PA.

Executive Director of Product Development (11/98- Present)

- Lead multifunctional groups (Molecular Biology, Bioanalytical, Chemistry, and Cell Biology) in a variety of strategic projects.
- Report to the Chief Scientific and Chief Executive Officers

Director, Microbial Targeting & Bioanalytical Research (2/98-11/98)

- In vivo* mutagenesis for microbial genomic-function studies and target validation
- Develop efficient system for oligonucleotide delivery to microbes

Director, Bioanalytical Research (1/97-2/98)

8/94-1/97 QBI, Camden, NJ

Director of Molecular Biology (4/96-1/97)

- Lead group in assay development in support of gene therapy studies
- Set-up and operate the PCR facility

Senior Scientist, Molecular Biology Department (9/94-4/96)

- Study director for molecular biology-based assays

8/91-8/94 Bristol-Myers Squibb, Princeton, NJ

Postdoctoral Research Scientist, Molecular Biology Department,

- Expression and purification of NF κ B and L-Zip transcription factors
- *In vitro* and *in vivo* analysis for SAR studies

9/84-8/91 NYU Medical Center, New York, NY

Postdoctoral Fellow, Biochemistry Department (2/91-8/91)

- Studies assessing protein-protein interactions

Doctoral Student Research, Biochemistry/Pathology Departments (9/86-2/91)

- Transcriptional regulation of c-fos

Rotational Research and Course Work, Pathology Department, (9/84-9/86)

1/84-7/84 HBF Labs, Newark, NJ

Research Assistant

9/81-12/83 Weizmann Institute of Science, Rehovot, Israel

MS Thesis Research, Virology Department

- Cloning interferon-inducible genes

8/80-9/81 **University of Pittsburgh Medical Center, Pittsburgh, PA**
Research Assistant, Pathology Department,

Education:

2/91 Ph.D.- Pathology/Biochemistry Department
 NYU Medical Center, New York, NY

12/83 M.Sc.- Virology Department
 Weizmann Institute of Science, Rehovot, Israel

5/80 Bachelors of Science, Microbiology
 Purdue University, West Lafayette, IN

Publications:

1. Merlin,G., Chebath,J., Benech,P., Metz,R., Revel,M. (1983). Molecular cloning and sequence of a partial cDNA for Interferon-induced (2'-5') Oligo(A) synthetase mRNA from human cells. *Proc. Natl. Acad. Sci. USA* **80**, 4904-4908.
2. Chebath,J., Merlin,G., Metz,R., Benech,P., Revel,M. (1983). Interferon-induced 56,000 Mr protein and its mRNA in human cells: Molecular cloning and partial sequence of the cDNA. *Nucl. Acids Res.* **11**, 1213-1226.
3. Ziff,E., Greenberg,M., Metz,R., Siegfried,Z. (1987). In "*Current Communication in Molecular Biology: Nuclear Oncogenes*", Cold Spring Harbor Laboratory (Alt,F., Harlow,E., Ziff,E.) p43.
4. Metz,R., Gorham,J., Siegfried,Z., Leonard,D., Gizang-Ginsberg,E., Thompson,M., Lawe,D., Kouzarides,T., Vosatka,R., MacGregor,D., Jamal,S., Greenberg,M., Ziff,E. (1988). *Cold Spring Harbor Symposia On Quantitative Biology Vol LII*, p727-737.
5. Vosatka,R., Hermanowski-Vosatka,A., Metz,R., Ziff,E. (1989). Dynamic interaction of the *c-fos* protein in serum-stimulated 3T3 cells. *J.Cell Phys.* **138**, 493-502.
6. Metz,R. and Ziff,E. (1991). Members of the HLH and C/EBP family of transcription factors interact with the *c-fos* SRE. *Oncogene* **6**, 2165-2178.
7. Metz,R. and Ziff,E. (1991). cAMP stimulates the C/EBP-related transcription factor rNFIL-6 to trans-locate to the nucleus and induce *c-fos* transcription. *Genes and Dev.* **5**, 1754-1766.
8. Noguchi,T., Metz,R., Chen,L., Mattei,M., Carrasco,D. and Bravo,R. (1993). Structure, mapping, and expression of *erp*, a growth factor-tyrosine phosphatase, and effect of ERP on cell growth. *Mol. Cell. Biol.* **13**, 5195-520
9. Alberini,C.M., Ghirardi,M., Metz,R. and Kandel,E.R. (1994). C/EBP is an immediate-early gene required for the consolidation of long-term facilitation in *Aplysia* .*Cell* **76**, 1099-1114.

10. Gruda,M.C., Kovary,K., Metz,R. and Bravo,R. (1994). Regulation of Fra-1 and Fra-2 phosphorylation differs during the cell cycle of fibroblasts and phosphorylation *in vitro* by MAP kinase affects DNA binding activity. *Oncogene* 9 (9), 2537-2547.
11. Metz,R., Bannister,A.J., Sutherland,J.A., Hagameier,C., O'Rourke,E.C., Cook,A., Bravo,R. and Kouzarides,T. (1994). Transcriptional activation modules of Fos interact with the TATA box binding protein TBP. *Mol. Cell. Biol.* 14 (9), 6021-6055.
12. Metz,R., Kouzarides,T. and Bravo,R. (1994). FosB, but not FosB/SF or Fra-1, contains a transactivation domain required for altered cell growth which is able to interact with the TATA binding protein. *EMBO J.* 13: 3832-3842.
13. Corvello,C., Metz,R., Bravo,R., and Armelin,M. (1995). Expression and Characterization of mouse cFos protein using the baculovirus expression system: ability to form functional AP-1 complex with coexpressed cJun protein. *Cell Mol Biol Res* 41(6), 527-35.
14. Metz,R. (1995). In *"Developments in Biological Standardization"* Reverse Transcriptase Assay - Problems and Practical Solutions.
15. Kren,B.T., Metz,R., Kumar,R., and Steer,C. (1999). Gene Repair Using Chimeric RNA/DNA Oligonucleotides. *Seminars in Liver Disease.* 19(1) 93-104.
16. Metz,R., DiCola,M., Primerano,J., Thomson,N., Avissar,P. and Kumar,R.,. (2001). In vivo Targeted Mutagenesis in E.coli employing synthetic RNA/DNA Oligonucleotids: Mechanism and Applications. (Submitted).
17. DiCola,M., Thomson,N., and Metz,R.. (2001). Functional Anatomy of the Chimeraplast, a Synthetic RNA/DNA Oligonucleotide Utilized for *in vivo* Site-directed Mutagenesis. (Manuscript in Preparation).
18. Bradely,M., Dhanjal,N., and Metz,R.. (2001). Chemical and biological analysis of Synthetic RNA/DNA Oligonucleotides for *in vivo* Site-directed Mutagenesis. (Manuscript in Preparation).

Presentations (Past 5 years):

1. *Metz,R. et al. (1996). Workshop presentation, "Rapid detection methods for RCA and RCR in recombinant viral vectors. " BioEast '96, Washington, D.C.
2. Metz, R. et al. (1996). "The detection of wildtype adenovirus in the background of recombinant adenovirus." Conference on Gene Therapy, Hilton Head, NC.
3. *Metz, R et al. (1996). "Rapid PCR-based detection assays for adventitious virus in raw materials" Williamsburg Bioprocessing Conference, Williamsburg, VA
4. *Metz, R et al. (1996). , "Rapid detection methods for RCA and RCR in recombinant viral vectors. " Williamsburg Bioprocessing Conference, Williamsburg, VA
5. Metz,R., Thomson,N., Dhanjal,N., DiCola,M., Avissar,P., Primerano,J. (1997). "Quality Control Issues in Chimeraplasty: A Novel Technology in Gene Modification". Gene Therapy: Clinical Advances and Vector Development.

6. Metz,R. DiCola,M., Primerano,J., Thomson,N., Avissar,P. and Kumar,R. (1998). In vivo Targeted Mutagenesis in E.coli employing synthetic RNA/DNA Oligonucleotids: Mechanism and Applications. 1st annual Meeting on Gene therapy, Seattle, WA.
7. *Metz,R., DiCola,M., Bradley,M., Mathew,A., Edwards,R., Walther, D., Gruda,M.,Frank,B., and Kurihara,T. (1999) Use of chimeric RNA/DNA oligonucleotides for in vivo site-directed mutagenesis. DNA Analysis Conference, Florence, Italy.
8. *Metz,R., Clark,J., Kurihara,T. and Blaese,M. (1999) Hope for the Production of a TSE-Free Herd. Cambridge Healthtech Institute's Conference "Transmissible Spongiform Encephalopathies". Washington.D.C.
9. Metz,R. DiCola,M., Primerano,J., Thomson,N., Avissar,P. and Kumar,R. (1999). In vivo Targeted Mutagenesis in E.coli employing synthetic RNA/DNA Oligonucleotides: Mechanism and Applications. 2 nd annual Meeting on Gene therapy, Washington D.C.
10. Kurihara,T., Edwards,R., DiCola,M., Walther,D., Frank,B. and Metz,R. (2000). Use of GenoplastTM-for targeting Bacterial genome. Gene Therapy Meeting. Keystone Meeting.
11. *Metz,R. (2000) PABiotech and BCNJ Conference Introduction to Biotechnology: Gene Cloning and Repair. Philadelphia, PA
12. Underkoffler,L., Paul,M., Bradley,M., Brosius,J., Edwards,R., DiCola,M., Kurihara,T., Walther,D., Frank,B. and Metz,R. (2000). Use of GenoplastTM-Directed DNA Sequence Alteration for Validation of Genomic Targets. Human Genetics and Genomics. Keystone Meeting.
14. *Metz,R. (2001) PABiotech and BCNJ Conference. Introduction to Biotechnology: Gene Cloning and Repair. Philadelphia, PA
15. *Metz, R (2001), *State of the Art Speaker*” at The Aspen Lung Conference. “DNA Repair: Progress to a Therapy for α 1-Antitrypsin Deficiency”. Aspen CO..

* denotes speaker

Professional associations and awards:

Feinberg Graduate School Academic Scholarship (1981-1983)
NIH Graduate Training Grant (1984-1991)
BMS Research Fellowship (1991-1994)
American Association for the Advancement of Science
American Association of Microbiology
American Society of Gene Therapy
Holloman-Kmieciak Outstanding Team Achievement Award (1997)
Ad Hoc Member of NIH Special Study Section for SBIR/STTR Evaluation (1999-2000)
Ad Hoc Member of NIH Medical Biochemistry Study Section (1999-2000)